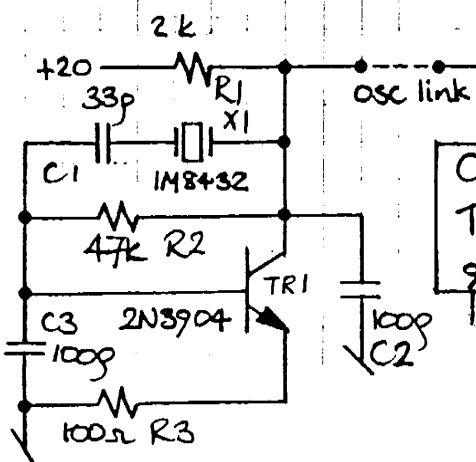
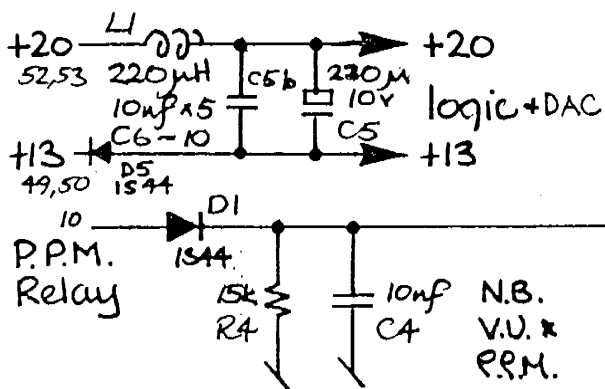




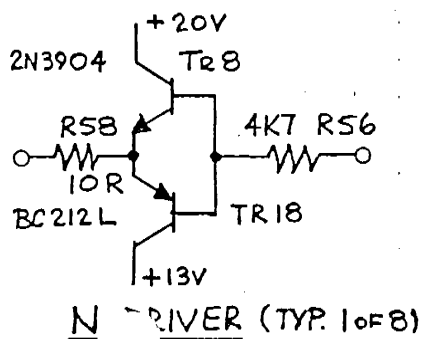
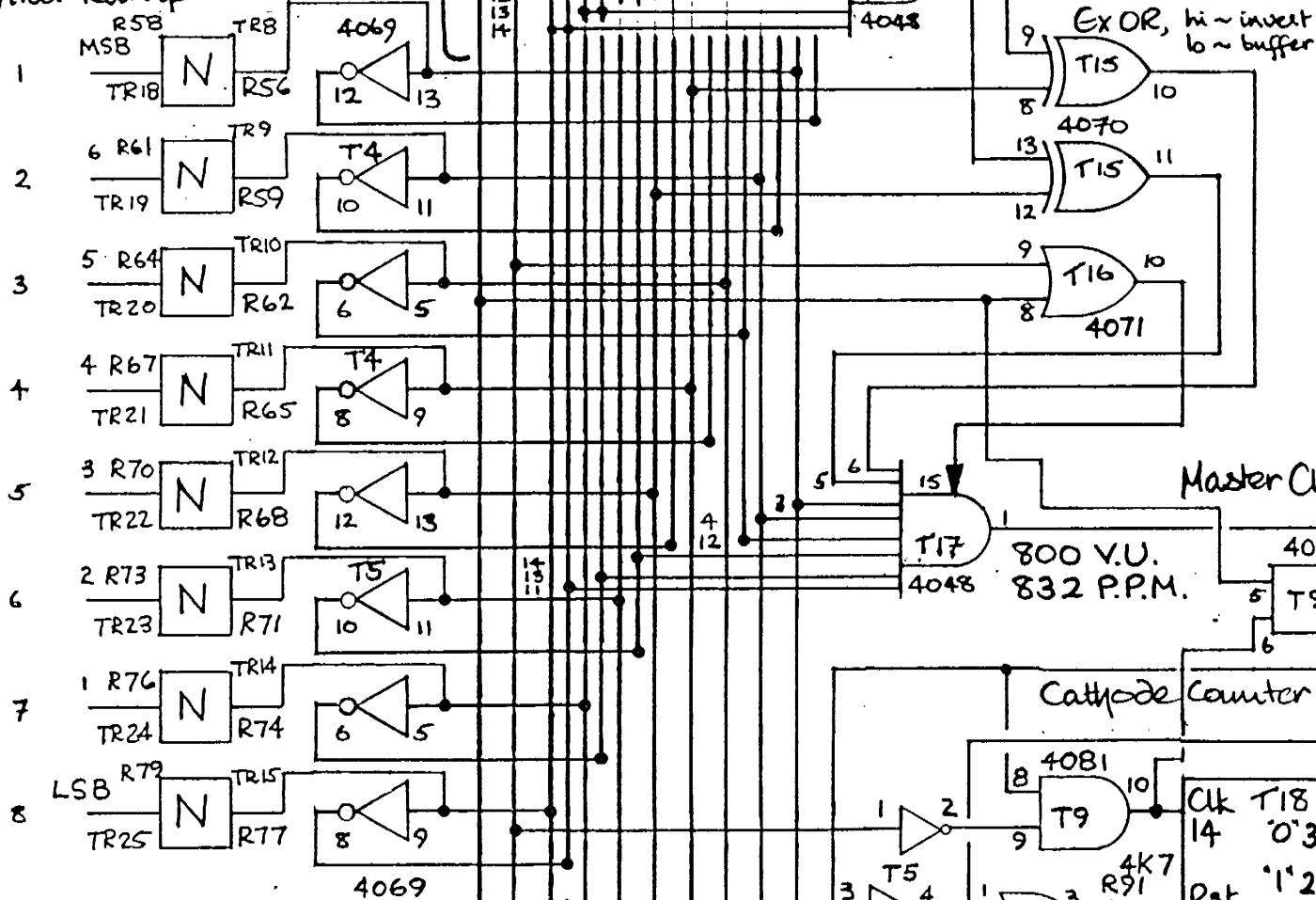
Ramp Generator

Logic Section

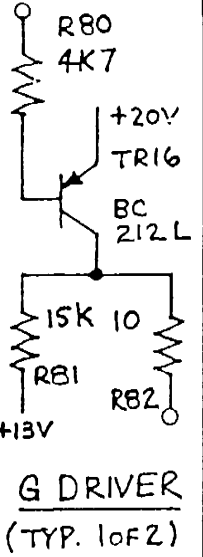
16 March 81
Richard Satter



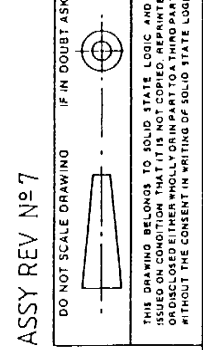
Digital Ramp



N.B.
4043
pins 5; hi
4048
pins 7
x 9; lo
pins 2
x 10; hi



ASSY REV No 7



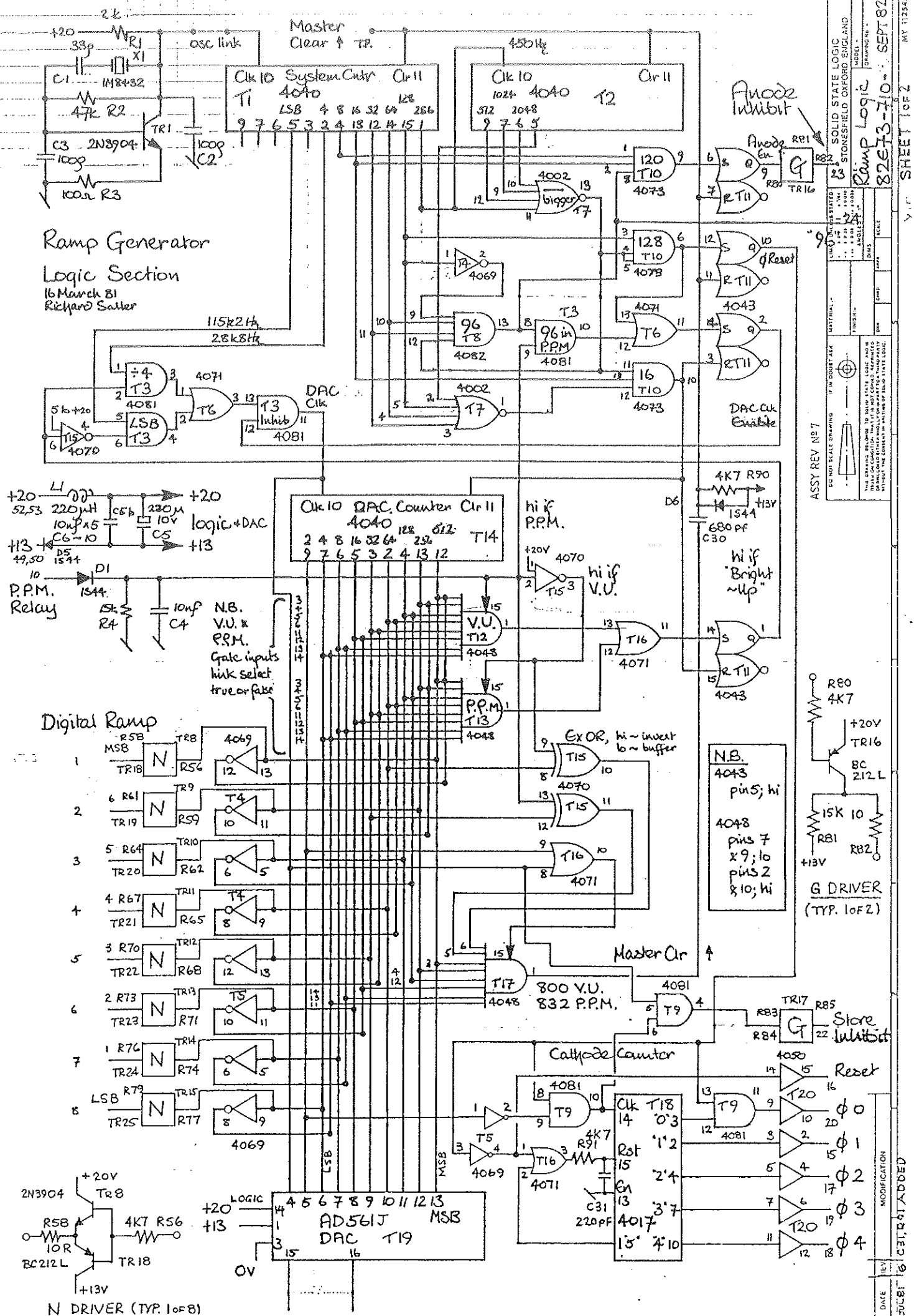
SOLID STATE LOGIC
STONESPOND OXFORD ENGLAND
MODEL: 12-21
Ramp Logic
82E73-710-

DATE REV
16 JUL 81 16

MODIFICATION
C31, R91 ADDED

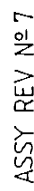
SHEET 1 OF 2

MY 112548 R



16 March 81
Richard Salter

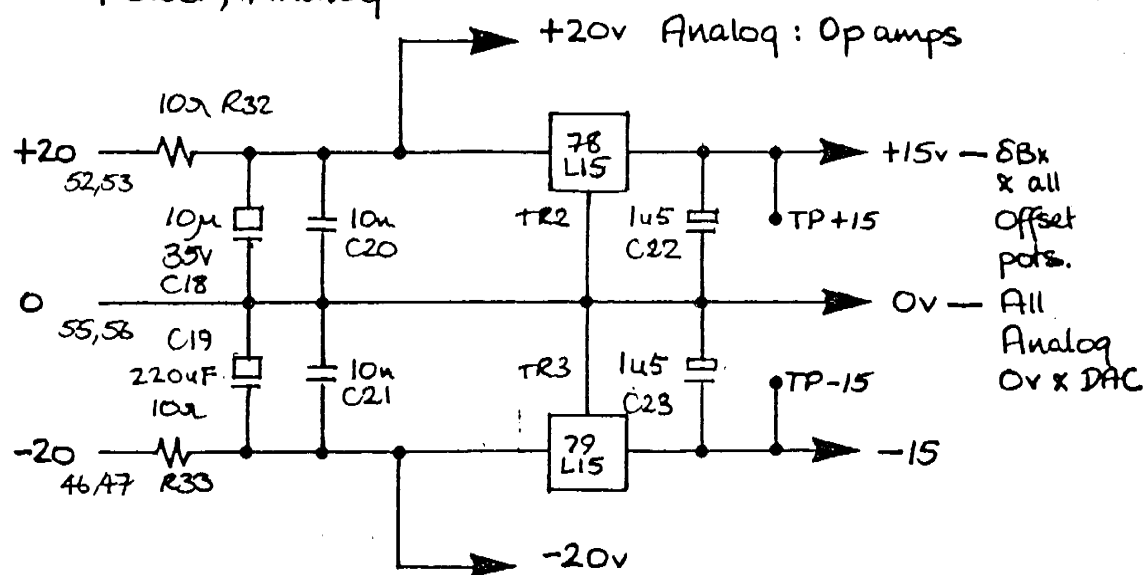
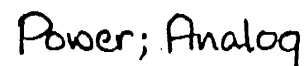
16 March 81
Richard Salter



SOLID STATE LOGIC
STONESFIELD OXFORD ENGLAND

NAME:-	Ramp Analog
MODEL:-	12-22

MY 112548 R



Notes;

Plts; 50K x 1K, multitrack, Ramp section
10K, single, Spectra
Op-Amps; Bist, Quads, except where
marked.

NOT USED: T4 4069 - $\frac{1}{6}$
T6 4071 - $\frac{2}{4}$
T8 4082 - $\frac{1}{2}$
T9 4081 - $\frac{1}{4}$
T16 4071 - $\frac{1}{4}$

ALL R's $\frac{1}{4}$ W, 5% EXCEPT
• INDICATES 0.5%

8 SEP 82	6	R 12 R19 CHANGED TO 180K
8 SEP 81	5	N DRIVERS ADDED
DATE	REV	MODIFICATION

82E73 Bargraph Ramp Generator Card

Edge Connector Pinout

No	Description
1	MSB Digital Ramp
2	6
3	5
4	4
5	3
6	2
7	1
8	LSB
9	spare
10	PPM Relay
15	Cathode 1 Drive
16	Reset Cathode Drive
17	Cathode 2 Drive
18	Cathode 4 Drive
19	Cathode 3 Drive
20	Cathode 0 Drive
21	spare
22	Store Inhibit
23	Anode Inhibit
24	"96"
25	VU Relay
26	Analog Ramp
27	spare
28	LF 180?
29	LF 0?
30	Spectra Signal Bus L Out
31	spare
32	Keyway
35	+10 dB Relay
38	Spectra Signal Bus R Out
42	RF 0?
43	RF 180?
46	-20 Volts
47	-20 Volts
49	+13 Volts
50	+13 Volts
52	+20 Volts
53	+20 Volts
55	0 Volts
56	0 Volts

T82073.50

11 May 81

APPLICABLE TO
Bargraph Ramp Card
REV. 4

LINE-UP PROCEDURE

1. Scope "Master Clear" test point (2V/div., 1mSec./div.). Check for 4V positive going pulse. Trigger scope from this point.
2. Scope right-hand end of R6 (AC coupled, 0.5V/div.). Select PPM. Check for $3 \pm 0.1V$ P-P ramp. If not within these limits trim R6.

Steps 3-6 establish initial settings for the Master Offset and Master Bright-Up controls. These may be trimmed for best overall accuracy.

3. Scope Analog Ramp Out at lower end of R30 (DC coupled, 0.1V/div., 1.0mSec./div.). Adjust "PPM Offset" for 200 millivolts at the bottom of the ramp.
4. Set PPM Bright-Up to occur at "0". (Scope 0.5V/div., 0.5mSec/div.) Adjust the "PPM Bright-Up" pot to make the break-point of the ramp 3.0V. This adjustment assumes a "0" reference of 0.775 V.
5. Set "VU Knee" control fully CCW.
6. Select VU. (Scope 0.1V/div.) Adjust "VU Offset" for 350 millivolts at the bottom of the ramp.
7. Set VU Bright-Up to occur at "0". (Scope 1V/Div., 0.1mSec./div.) Adjust the "Bright-Up" pot for a 4.2V P-P ramp. This adjustment assumes a "0" reference of 1.228V. For other reference levels, trim R28 and adjust ramp amplitude accordingly. (I.E. For a 0.775 reference, R28 becomes 33k2 ohms and the VU ramp is 2.6V P-P).
8. Adjustment of "VU Knee" is made with a bargraph meter. Once the Bright-Up and Offset adjustments are made, check for an accurate indication at -10 VU. If necessary adjust "VU Knee". There is some interaction among the VU controls so recheck the Bright-Up and -20 VU points and readjust for best overall scale accuracy.
9. Select SPECTRA and +10 dB TO SPECTRA. Adjust left and right "Spectra Trim" controls for unity gain through the Spectra Driver circuit.

APPLICABLE TO
Bargraph Ramp Card
REV. 4 and 5

LINE-UP PROCEDURE

NB: THESE CONTROLS ARE SET IN OUR FINAL TEST DEPARTMENT AND SHOULD NOT NORMALLY REQUIRE FURTHER ADJUSTMENT.

1. Scope "Master Clear" test point (2V/div., 1mSec./div.). Check for 4V positive going pulse. Trigger scope from this point.
2. Scope right-hand end of R6 (AC coupled, 0.5V/div.). Select PPM. Check for 3 $\pm$ 0.1V P-P ramp. If not within these limits trim R6.

Steps 3-6 establish initial settings for the Master Offset and Master Bright-Up controls. These may be trimmed for best overall accuracy.

3. Set PPM DIL switches for a "0" Bright-Up point. (Sw3: 1 down, 2,3,4 up. Sw4: 1&4 down, 2&3 up.) Scope Analog Ramp Out at lower end of R30 (0.5V/div., 0.5mSec/div.). Adjust the "PPM Bright-Up" pot for 2.8V P-P from the bottom to the break point of the ramp. This adjustment assumes a "0" reference of 0.775V.
4. Connect a DVM to the lower end of R30 (measuring DC Volts). NOTE: Switch off H.T. Connect a lead from the Osc. Link to 0 V. to disable the clock. Briefly short pin 11 to pin 16 of T14 to clear the counter. Adjust "PPM Offset" for +100 $\pm$ 2 millivolts at R30. Remove the lead from the Osc. Link.
5. Set "VU Knee" control fully CCW.
6. Select VU. (Scope 0.1V/div.) Adjust "VU Offset" for 350 millivolts at the bottom of the ramp.
7. Set VU Bright- Up to occur at "0". (Scope 1V/div., 0.1mSec./div.) Adjust the Bright-Up" pot for a 4.2V P-P ramp. This adjustment assumes a "0" reference of 1.228V. For other reference levels, trim R28 and adjust ramp amplitude accordingly. (I.E. For a 0.775 reference, R28 becomes 33k2 ohms and the VU ramp is 2.6V P-P).
8. Adjustment of "VU Knee" is made with a bargraph meter. Once the Bright-Up and Offset adjustments are made, check for an accurate indication at -10 VU. If necessary adjust "VU Knee". There is some interaction among the VU controls so recheck the Bright-Up and -20 VU points and readjust for best overall scale accuracy.
9. Select SPECTRA and +10 dB TO SPECTRA. Adjust left and right "Spectra Trim" controls for unity gain through the Spectra Driver circuit.